

Hitchcock's Machine Tool Blue Book

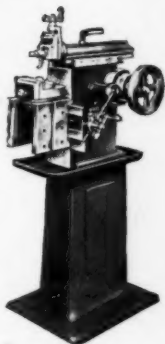
APRIL, 1932

TWENTY-SEVENTH YEAR

THE RHODES SHAPER - SLOTTER

Two machines in one set-up. A shaper with 7" capacity — a slotter that takes work to 3½" with the change from one to the other made in a few minutes' work with a wrench.

Save money, save space, increase the efficiency of your tool room.



Send for details of the Rhodes Shaper-Slotter

THE RHODES MFG. CO.
WALTHAM, MASS.

PUBLISHED AT 508 So. DEARBORN ST. CHICAGO

The Cincinnati

TRADE MARK

High Speed Cut-off Machine

Unexcelled—

for cutting your steel alloys, brass, copper, aluminum, fibrous materials, etc. of any size or shape up to 2 1/4" inclusive. This machine makes cuts, straight or angle, easily and quickly up to 45°, using the same vise for the various cuts.

Interesting Figures

A time chart showing the remarkable short time this machine takes to cut the various steel alloys and metals is yours on request. This chart also shows the large number of cuts the cutting wheel makes in the various metals and alloys. Send for these in-

teresting figures and compare them with your own.

Also send for Bulletin giving complete description of this machine

BUILDERS OF:

***Ball Bearing
Electric Drills
Screw Drivers
Nut Setters
Tappers
Valve Grinders
Tool Post Grinders
Floor Buffers
Bench and
Floor Grinders***

THE CINCINNATI ELECTRICAL TOOL CO.

2700 Madison Road, Cincinnati, Ohio



**Hitchcock's
Machine Tool
Blue Book**

**Selected
Circulation**

**25,500
Monthly**

APRIL, 1932

TWENTY-SEVENTH YEAR

We Have Come Through Scores Of Depressions

The Little Schoolmaster, in "Printers' Ink", says he made a visit to an exhibition at Columbia University, called "Depressions the World Has Lived Through."

"This unique exhibition", he says, "contains 150 volumes on depressions that have visited the world since the seventeenth century. Each volume declares, with positive assurance, that the depression it describes is the worst ever visited upon mankind."

These glimpses into the past should strengthen our faith in the future, for, with only minor differences, the depression from which we are just about emerging is simply a repetition of the same old story.

Practically every depression has been followed by greater prosperity than ever before. Therefore, if history teaches us anything, we have wonderful times to look forward to—and it may come sooner than we anticipate.

Published By

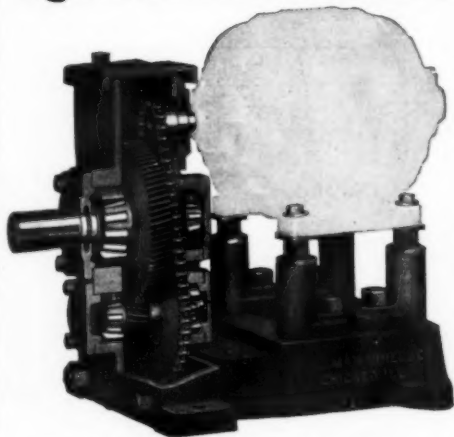
Hitchcock Publishing Co.

508 S. Dearborn St.,

Chicago, Ill.

Consult the Classified Finding Index for your requirements

The Cullman Speed Reducers



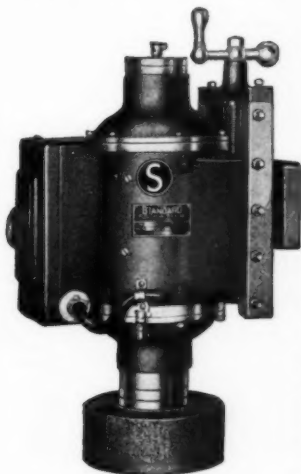
Made in sizes for motors from $\frac{1}{8}$ to 15 H. P. Ratio 2.5 to 1 to 1014 to 1. Timken Roller Bearings and Helical Gears—all moving parts operate in a bath of oil.

Write for Catalog

Cullman Wheel Company
1359 Altgeld St., Chicago, Ill.

*Sprockets—Lathe, Shaper and
Milling Machine Drives*

Introducing—



A New Vertical Grinder

Grind your dies or do your surface grinding with this machine. This is a very satisfactory tool for all planer and boring mill grinding.

Equipped with a 4 H. P. General Electric 3600 RPM Motor. G.E. switch and SKF ball bearings are used.

Arranged to take a cup wheel 7" dia. x 1¼" wall. Net weight 155 lbs. Made in five sizes: 3, 4, 5, 7½ and 10 H. P.

Write for complete catalog

**THE
STANDARD
ELECTRICAL TOOL CO.**

Established 1912

1952 West 8th St.,

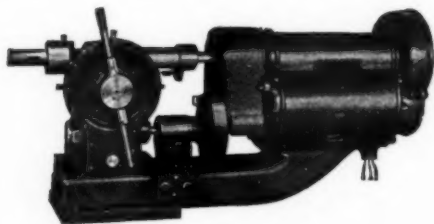
Cincinnati, Ohio

Standardize with Standard Tools

DO YOU KNOW

about the most modern practice in selecting equipment for small hole drilling and tapping, when production requirements are high ?

HERE'S THE ANSWER!



Avey MOTOR DRIVEN DRILLING UNITS are a standard product—built in various types and sizes—and they can be mounted to suit your work.

Our engineering department is at your service. Let us figure on your drilling problems, and show you the way to lower costs.

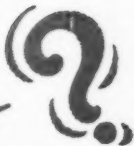
THE AVEY DRILLING MACHINE CO.
CINCINNATI, OHIO

can my products
be roll-formed

what materials can
be roll-formed

what other operations
can be combined
with roll-forming

how much can I save
by roll-forming



THE answer to these and many other questions on the application and possibilities of Roll-Forming, are contained in this new McKinney bulletin. Write for it today—it may suggest surprising improvements in methods and unexpected savings in costs. *Mail the coupon.*



Without obligation, send Bulletin #31 to:
Name —
Company —
Address —

The McKinney Tool & Mfg Co

1684 Arabella Road,
Cleveland, Ohio



Lathe Collets
Screw Machine Collets
Feed Fingers

For every type of machine

Round-Square and Hexagon Holes

SPECIALS MADE TO ORDER

PORST BROS.

Manufacturers

5255 Ravenswood Ave.,

Chicago, Ill.

NOC-OUT

Automatic Roll Feeds For Punch Presses Speed Production

Secure automatic feeding with its many advantages for your punch presses by installing the NOC-OUT Automatic Reversible Feed. This small unit automatically feeds metal, paper, brake lining or any other stock from coils in lengths from 0 to 30 inches per stroke of press.

FASTER — ACCURATE — ECONOMICAL

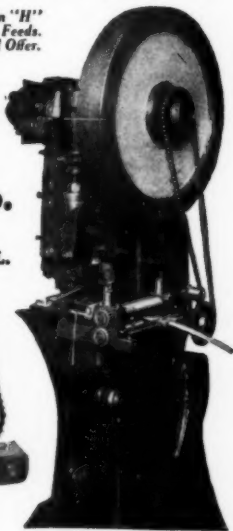
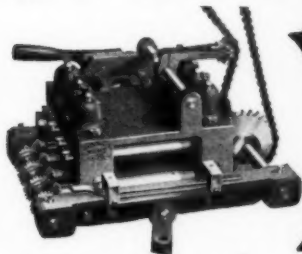
Labor is saved, production is increased and your men safeguarded with this feed. Automatic feeding means full speed production all day long —there are no "let downs" as it eliminates the human element whose energies are limited. Can be readily installed on any press.

We will gladly send you a copy of Bulletin "H" describing NOC-OUT Automatic Roll Feeds. Write for it and details of Our Free Trial Offer.

We design and build progressive and automatic dies for high speed production. Submit samples of your stamping for estimate.

Wittek Mfg. Co.

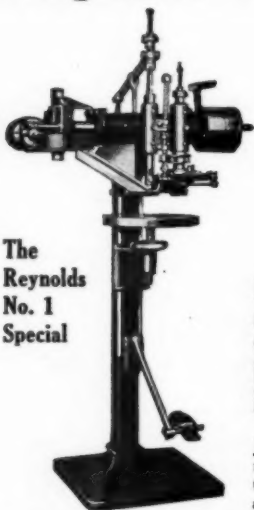
4309 W. 24th Place,
Dept. "H" CHICAGO, ILL.



Replace 3 to 6 Men

With One Reynolds Automatic Magazine-Fed Machine

The
Reynolds
No. 1
Special



Picture shows a Reynolds that drives short screws and those with short bodies and large heads

Just keep the hopper filled—no handling of screws beyond that—a boy or girl can operate it.

For a good many years Reynolds Automatic MAGAZINE-FED Screw Driving Machines have been driving screws of all kinds for concerns all over the country, at savings from 65 to 85%.

The No. 1 Special, shown above, handles screws with short bodies and large heads, magazing and driving screws from No. 4 to No. 10 up to $\frac{1}{2}$ " long, to center of a 14" circle. It will pay you in actual dollars and cents to investigate the savings the Reynolds can effect in your shop.

Many other sizes and types for almost any size screw.

Drop us a line, giving dimensions over all of your work, length and gauge of screws used. We'll submit facts and figures showing how to reduce your costs.

The Reynolds Machine Company
Dept. H. H. Massillon, Ohio



We Can Supply Your Needs

We have complete facilities so that we can furnish your every requirement. Elco Screws are the choice of leading Industrial and Automotive concerns who demand Dependable Quality and unusually Prompt Service.

We manufacture a complete line of Machine Screws, Machine Screw Nuts, Wood Screws, Lag Screws, Pipe Plugs and Cap Screws. It is possible that you are using special screw parts that can be produced by our method at a great saving to you.

Send us Blue Prints or Samples, together with quantities required, for an estimate.

*Remember that in Screws—there is a difference.
Let us show you.*

Elco Tool & Screw Corporation
1808 Broadway, Rockford, Illinois

"IT PAYS TO USE GOOD SCREWS"

KRW "Bench Type" ARBOR PRESS



No. 37D

\$28.50

F.O.B. FACTORY
ARCADE, N. Y.

Shipping Weight
140 lbs.

*Write for special
circular, just off
the press, cover-
ing KRW Hy-
draulic Arbor
Presses, air and
oil operated.*

Every shop needs one of these presses to handle hundreds of jobs now done with vises and sledge hammers. They soon pay for themselves in time and labor saved.

The K R W "Bench Type" Arbor Press is oversize in every particular. The throat is extra deep, taking work up to 13 inches in diameter. The ram is $1\frac{1}{2} \times 1\frac{1}{2} \times 17$ inches. Largest arbor is $1\frac{1}{8}$ inches. The height is 22 inches. Can be conveniently mounted on end of work bench, as it takes up a space of only 8×20 inches.

K. R. WILSON

10-16 Lock Street, Buffalo, N. Y., U. S. A.

EXPORT DEPT.
126 Liberty St., New York

WEST COAST BRANCH
647 Mateo St., Los Angeles

FOOTBURT



A Single Spindle Footburt Sipp Sensitive Drill

**Made in three
sizes of single
and multiple
spindle models**

More holes with this machine

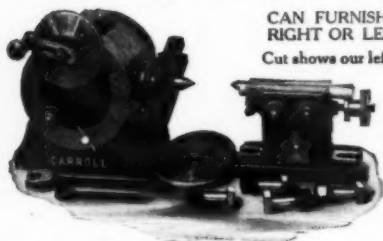
Why? Because you can change speeds in two seconds or belts in ten seconds—because the automatic idlers keep the belt pulling to capacity at all times—because the full ball bearing equipment and accurate machining gives a smooth, fast cut.

Write for No. 650 Folders

The Foote-Burt Company, Cleveland, O.

FOOTBURT

Carroll 10 $\frac{1}{2}$ " Universal Dividing Head



CAN FURNISH EITHER
RIGHT OR LEFT HAND

Cut shows our left hand type

Liberal
Allowance
Made on
Your Old
Dividing
Head.

Sold at a price that makes it a profitable investment.
Built by Dividing Head Specialists for seventeen years.

Bulletin and prices showing complete line mailed on request.

Wm. Carroll & Son

1776 Lexington Ave. (Norwood), Cincinnati, Ohio, U.S.A.

ATLAS PRESS CO.

KALAMAZOO, MICH.

**Makers of fine Arbor
Presses for 25 years**

Illustrated is our No. 55
Power Press designed
especially for production
work where speed is es-
sential. At 10 tons pressure
No. 55 has a ram travel of
27 feet per minute.

*Write for descriptive
Bulletin on this and
other types*



Be sure the letter



is on all your
Punches and Dies

They are made in our own factory and are genuine.

No. 7 ROLLER BEAR'G PUNCH

No. 11 BALL BEARING PUNCH



Capacity $\frac{1}{4}$ " thru $\frac{1}{8}$ " iron
Weight.....6 $\frac{1}{2}$ lbs.

MADE IN 3 SIZES

Nos. 7-7 $\frac{1}{2}$ -8



Capacity $\frac{3}{8}$ " thru $\frac{1}{4}$ " iron
Weight.....8 lbs.

No. 24 BALL BEARING PUNCH

ANGLE IRON SHEAR No. 4



Capacity $\frac{1}{2}$ " hole in $\frac{3}{8}$ " iron
Weight.....45 lbs.

Punch in center of 7"



Capacity 2"x2"x $\frac{1}{4}$ " Angle Iron
Weight.....44 lbs.

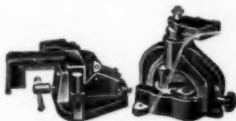
Inserted Tool Steel Blades

No. 50 Angle Iron Mitre Notcher and No. 51 Angle Iron Bender

Weight of Mitre Notcher.....55 lbs.

Weight of Mitre Notcher Bender 43 lbs.

Capacity—Will Shear Mitre in
2"x2"x $\frac{1}{4}$ " Angle Iron
or Smaller.



Whitney Metal Tool Co.

95 Forbes Street,

Rockford, Illinois

If 10% would insure your job... would you Buy?

No matter how sure we may feel about our jobs, few of us would hesitate to spend 10% of our income to *insure* ourselves against job-loss.

None of us can *buy* such an insurance policy. But if we all work together, we can *make* one.

Spend 10% more!

How shall we do it? . . . Simply by spending 10% more than we've been spending—buying the things we need *now*, instead of waiting for Summer.

But our *saved* dollars bring about a quarter *less*. Our *spending* dollars are worth \$1.50—our *saved* dollars are worth about 75c.

A dollar *spent* now is worth \$1.50.

A dollar *saved* now is worth 75c.

Many of us are afraid of the future. But the future's all right. It's the *present* we should worry about. There'll be plenty of jobs for everybody sometime—but there are too few today!

Because we're afraid, we are saving a larger share of our earnings than we ordinarily would. This kind of abnormal saving has taken millions of dollars out of circulation so they can't work. These sleeping dollars have forced our friends and neighbors out of their jobs.

By putting these sleeping dollars to work again—to buy what we need *now*—we create new jobs. And *new* jobs help create new prosperity.

In "hard" times, dollars always *buy more* and *earn less*. Our spending dollars buy about half as much *more* today than they did two years ago.

Today's prices are low—lower even than in 1921—some of them lower than in 20 years. We're surrounded by bargains—*real* bargains—fine quality at low prices.

Pretty soon—before you know it—these low prices will start *up*. Then the buying-power of our dollars will begin to *shrink*.

So, when we buy now, we are doing ourselves a double-barrelled favor: we are getting the most for our money, and are helping to insure our jobs!

There are about 30,000,000 of us who still *have* jobs, and probably twenty million of us are spending less than we can afford with present income. Let's make our jobs secure and create jobs for those who have none—by spending our dollars *normally now*.

THE NATIONAL PUBLISHERS ASSOCIATION

"To use available income to purchase goods normally needed and in the replacement of which labor is employed, is a condition precedent to any hopeful program to constructively increase employment."

(From the Recommendations of the Committee on Unemployment Plans and Suggestions of the President's Organization on Unemployment Relief)

BURKE Low-Cost Machines

for

Low-Cost Milling



No. 3
\$155.

With Burke equipment it costs little to effect big savings in milling expenses. The machine shown handles a wide range of smaller work, relieving big millers for the more profitable work for which they are intended. The Burke No. 3 Miller is fast, accurate and economical to run.

Send us prints of your small milling jobs for estimates — or ask for Catalogs.

The Burke Machine Tool Co., 297 E. 16th St., Conneaut, Ohio



ARMSTRONG

announces

Armide Cutters



Ready-ground
— 5 standard
cutter forms

Carbide-Tipped—
for general use in

ARMSTRONG TOOL HOLDERS

Hard enough to machine glass, hardened steel, chilled cast iron, still tougher than previous Carbide Cutting Metals. Armide Cutters fit standard ARMSTRONG Tool Holders, bring the advantages of Carbide tools within range of every shop; hold their edge from 10 to 200 times as long as high speed steel.

Write for
Circular

ARMSTRONG BROS. TOOL CO.

"The Tool Holder People"

308 N. Francisco Av., CHICAGO, U. S. A.

SHELDON MACHINE VISES



MILLING MACHINE VISES

Plain and Swivel

DRILL PRESS VISES

Quality is built into
our products



SHELDON ARBOR PRESSES

Write for illustrated price list

SHELDON MACHINE CO. Railway Exchange Building,
CHICAGO, ILLINOIS

PULLEY GRINDER

Finishes Belt Surface, Crowned
or Straight, from the Rough.

Hard or Soft
heavy or light, it
grinds them all.

Cuts time in Half
over Turning.

No Wheel Dressing
at any time.

Cast Iron Saved
Pays for Wheel
Wear and Operator

Also finishes

**TRUCK WHEELS,
BRAKE DRUMS,
Conveyor ROLLS,
BRAKE SHOES,
ARCS, CAMS and
other Curved Work.**



Drop Pulley
on Vertical
Arbor.
No Clamping.
Feed in. Pick
off. It's Done.

Circulars

THE GRAHAM MFG. CO., 70 Willard Ave.
PROVIDENCE, R. I.

1905

Strand

1932

FLEXIBLE SHAFTS

Type RF-M-4

**AND
MACHINES**

For The
TOOL AND DIE MAKER
FOUNDRY
PATTERN SHOP
MACHINE SHOP

10,000 R. P. M.
Attachment



Write for Catalog



SIXTY TYPES AND SIZES

Manufactured by

N. A. STRAND & CO.

5001-9 N. Lincoln St., Chicago

"Champion" Emery Wheel Dresser

Outlasts a Dozen Cheaper Dressers

The "Champion" is made by experts,
for long life and the best
service. The only dresser
that runs in an oil
bearing.



The most eco-
nomical dresser you
can buy. Cutters are made
of the best grade of tool steel,
milled and heat-treated and tempered
—fully guaranteed. Get the complete
details on this cost saving tool.

*Write for Catalog also describing Champion Tool Holders,
Expanding Mandrels, Vises, Clamps, Shop Furniture, Etc.*

The Western Tool & Mfg. Co.
SPRINGFIELD, OHIO

Faster Broach Sharpening—



and
at

**LOWER
COST!**

**The Colonial
Broach Sharpener**

is specifically designed to sharpen broaches and produces the equivalent of a new tool at each grinding. It grinds the difficult undercut easily, increases the life of your broaches—releases larger machines for their regular work. And it does all this in one-third the time at cost savings that average 65% or more! It will pay you, in dollars and cents, to investigate this modern machine.

Complete Information Gladly Sent Upon Request

COLONIAL BROACH COMPANY

147 Jos. Campau Ave.,

Detroit, Mich.

SPEED

SPOT WELDERS

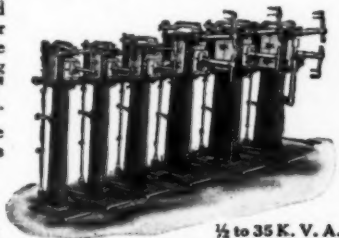
Made foot-operated and variable speed automatic motor drive, no change gears, for welding from .0005 to $\frac{5}{8}$ " combined thickness.

Welders for Fine Work Priced As Low As

\$55.00

Submit Your Problems

OVER 20,000 IN USE



$\frac{1}{2}$ to 35 K. V. A.

EISLER ELECTRIC

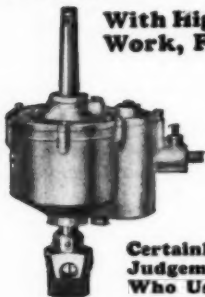
763 So. 13th Street,

NEWARK, N. J.

Distributor and Dealer Connections Desired

MORE PRODUCTION

With Higher Speed, Less Spoiled Work, Fatigue or Broken Taps



ETTCO

High Speed-Sensitive

TAPPING ATTACHMENT

Certainly You Can Be Guided by the Judgement of Hundreds of Factories Who Use ETTCOS.

FIVE SIZES—UP TO ONE INCH TAPS

Try Ettcos at Our Expense. We have a nice New Circular ? ?

ETTCO TOOL CO., Inc., 594 Johnson Ave.,
BROOKLYN, N.Y.

THE WILDER Interchangeable COUNTERBORE

**Change Cutting
Tools While
Machine is
in Operation**



With the new WILDER Quick Change feature it's an easy matter to remove or install the cutting tool while machine is in operation. All you do is lift up the knurled chuck which releases the lock driving plunger and allows cutting tool to drop out or be easily installed. Use a WILDER Interchangeable Counterbore and note the increase in output per grind.

Write for Complete Information and Price

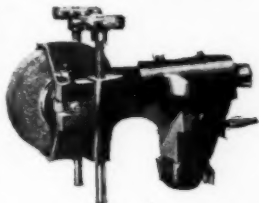
THE WILDER TOOL CO.
GREENFIELD, MASS.

The New Industrial Abrasive Wheel Dresser

A precision tool that sets a new standard of performance—employing special tapered roller bearings which assure rigidity and long life. Available with either abrasive wheels for finish grinding or with steel cutters for rough dressing, producing a fast-cutting grinding wheel yet maintaining a straight smooth finish.

Our line of wheel dressers covers practically all makes and types of production and precision grinding machines; Landis, Norton, Brown & Sharpe, and Cincinnati plain and centerless grinders, etc.

We also manufacture diamond tools for every mechanical purpose; special shaped turning tools, indicator contact points, penetrator points for all hardness testing machines, etc.



*1932 catalogue on Wheel
Dressers and Diamond Tools
furnished on request.*

Industrial Diamond Company, Inc.
1344 W. Vernor Highway, Detroit, Michigan
Established 1900

THOMPSON
12"x36"
Universal

**For All Kinds
of GRINDING**



**Saves
Time
and
Money**

Plain, edge, die, surface, cutter
and reamer, and internal—and
good at all of them.
Efficient, accurate,
dependable.

Work adjusts to
a fixed grind-
ing wheel, an
exclusive feature
that's better.

*All standard machines
equipped with auxiliary
independent coarse cross
feed for surface grinding.*

**The Thompson
Grinder Co.**
1534 West Main St.,
Springfield, Ohio



Townsend Centrifugal Multi-Blow Riveters

THE ONLY MACHINE THAT IMITATES HAND RIVETING IN EVERY WAY.

NUMEROUS TYPES FOR ALL KINDS OF WORK.

Round and Flat heads, hollow and check rivets from .008" to $\frac{5}{16}$ " without distortion or breaking of fragile material. In places inaccessible by any other method.

H. P. Townsend Mfg. Co.
Hartford, Conn.

Foreign Representatives:

G. H. Alexander Machinery Ltd., Birmingham, England
Andrews & George Co., Tokyo, Japan
Fenwick Freres, Paris, France



low pressure **high VELOCITY**

Reduces fire risk and danger of "shorts" and "burnouts."

No installation. Attach to any light socket. Less than 2¢ an hour to run. Ball bearings—no oiling. 4 models.

Used by over 20,000 concerns. Fully guaranteed by 20 year old company, originators and largest manufacturers of portable electric blowers.

Try it 10 days

Then pay for it, or return it at our expense.

CLEMENTS MFG. CO., 624 Clements Bldg.
6650 So. Narragansett Ave., Chicago, Ill.

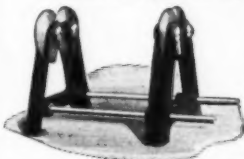
This **PORTABLE ELECTRIC BLOWER** delivers **DRY** air, free from oil, at high velocity, yet low pressure. It safely, quickly, and efficiently cleans motors, generators, converters, shafting, overhead piping, etc.

Instantly convertible for suction-cleaning stocks, bins, auto interiors, furniture, overhead pipes, shafts, line shafting, etc., or for spraying insecticides, deodorants, paints, lacquers, etc.

Ball-bearing
Clements
Cadillac

10 day FREE TRIAL

**Made in 6 Sizes for Balancing Anything
That Revolves up to 24000 lbs.**



Anderson Improved Balancing Ways

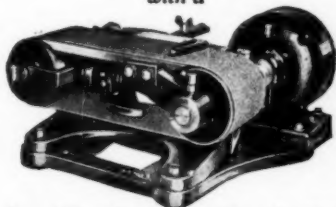
Require no leveling or adjustment. They are especially sensitive I Spindles and discs are hardened like the frame—they cannot lose their effectiveness or become injured by use.

"Swing"	20"	40"	60"	72"	96"	72"
Greatest distance bet. standards.....	20"	30"	30"	66"	88"	20"
Capacity in lbs.	1000	2000	2000	5000	10000	24000
Approx. shipping weight.....	45	90	150	350	650	
Code	Bend	B-d	Bis	Bib	Ben	

Any of above can be furnished with longer shafts

Anderson Bros. Mfg. Co.
1915 Kishwaukee St., Rockford, Ill.

Abolish Expensive Hand Finishing with a



Simplex-M Abrasive Band Grinder

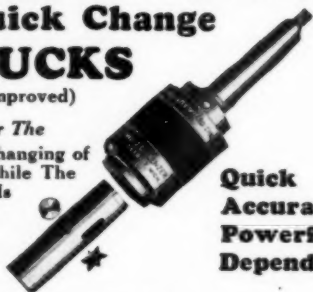
This Grinder accelerates production and cuts costs. Hand emerying or filing operations are antiquated in comparison. The use of this new modern machine assures straight grain finishes with sharp edges. *Details of this and other styles and sizes on request.*

WALLS SALES CORP., 96 Warren Street
NEW YORK

UTILITY-WIARD Quick Change CHUCKS

(Improved)

For The
Rapid Changing of
Tools While The
Spindle Is
Turning



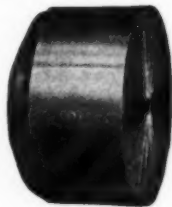
**Quick
Accurate
Powerful
Dependable**

The J. C. Glenzer Co.

6467 Epworth Blvd.,

DETROIT, MICH.

"D & W" Flat & Rotary Magnetic Chucks



**Have Proved Time
and Labor Savers**

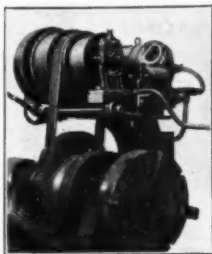


D. & W. Magnetic Chucks hold a great variety of iron and steel pieces for grinding, milling, planing and shaping operations. By the effective way they serve you, they soon pay for themselves. We specialize in problems dealing with the use of flat and rotary magnetic chucks. Let us investigate any question which is confronting you.

Special chucks to order. Folder and price list on request.

J. & H. Electric Co., 200 Richmond St.,
Providence, R. I.

Tremendous Power Savings



are possible by using

H & Z Individual Motorization

INDUSTRIAL concerns who are using our services and parts report power savings running from 20 to 70%, and in addition have discovered that the efficiency of their entire plant is increased from 10 to 50%. H & Z Individual

Motor Drives eliminate overhead drive shafting. We have over 2000 patterns accumulated from ten years experience in equipping machine tools and textile mills with Individual motor Drives.

Write for our Catalog M-101

HERTZLER & ZOOK CO., Box 101, BELLEVILLE, PA.

3 TOOLS IN 1

**Etches-Demagnetizes-
Anneals**

THE LUMA is a compact, handy, portable tool — an electric pencil for marking hardened and ground steel—a thorough demagnetizer—a carbon point for light annealing and soldering. Easy to use — plugs in any light socket. Effects surprising savings.



Luma Marking and
Demagnetizing SIMULTANEOUSLY

Write for full data—including 5 day FREE TRIAL OFFER

LUMA ELECTRIC EQUIPMENT CO.

DEPT. H.—Main P. O. Box No. 132—TOLEDO, OHIO

STANDARDIZATION PAYS

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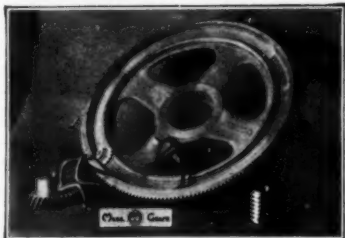
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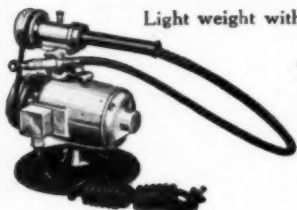
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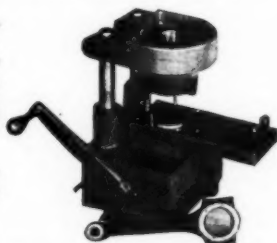
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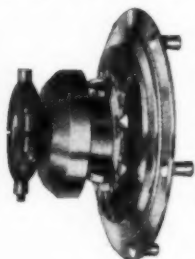
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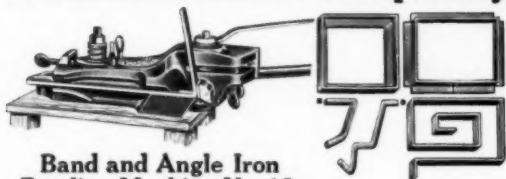
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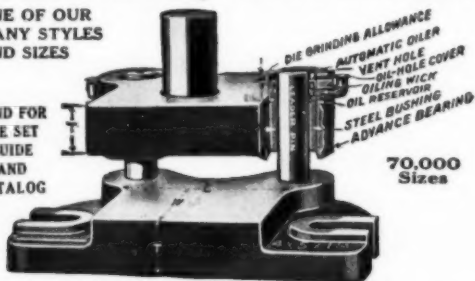
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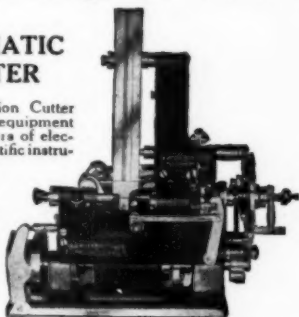
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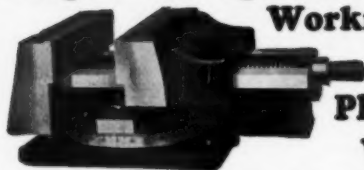
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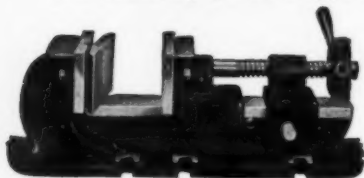
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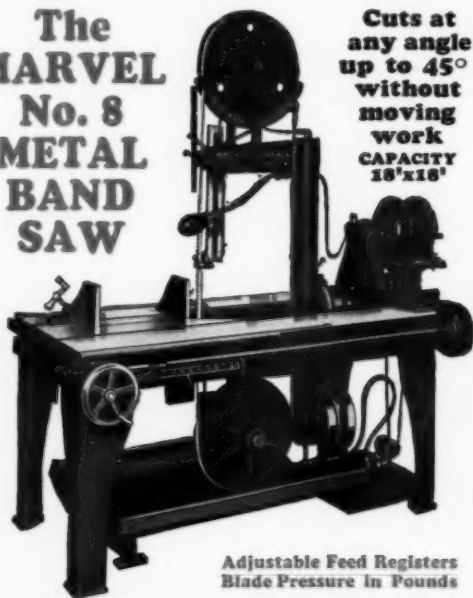


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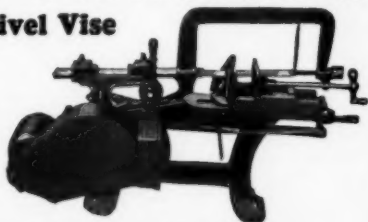
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Lathes, Extension Bed Gap

LeBlond Mch. Tool Co., R. K., Cincinnati, O.

Lathes, Gap

LeBlond Mch. Tool Co., R. K., Cincinnati, O.

Lathes, Manufacturing

LeBlond Mch. Tool Co., R. K., Cincinnati, O.

Lathes, Polishing and Buffing

Cincinnati Electrical Tool Co., Cincinnati, O.
Standard Electrical Tool Co., Cincinnati, O.

Lathes, Precision

LeBlond Mch. Tool Co., R. K., Cincinnati, O.
Wade Tool Co., Waltham, Mass.

Lathes, Short Bed

Porter-Cable Machine Co., Syracuse, N. Y.

Lathes, Tool Room

LeBlond Mch. Tool Co., R. K., Cincinnati, O.

Mandrels, Expanding

Western Tool & Mfg. Co., Springfield, O.

Machine Screws

Elco Tool & Screw Corp., Rockford, Ill.

Milling Attachments

Burke Machine Tool Co., Conneaut, Ohio
Kearney & Trecker Corp., Milwaukee, Wis.
LeBlond Mch. Tool Co., R. K., Cincinnati, O.
Porter-Cable Machine Co., Syracuse, N. Y.

Milling Machines, Bench

Ames Co., B. C., Waltham, Mass.
Burke Machine Tool Co., Conneaut, Ohio

Milling Machines, Hand

Burke Machine Tool Co., Conneaut, Ohio

Milling Machines, Manufacturing

Kearney & Trecker Corp., Milwaukee, Wis.

Milling Machines, Plain

Burke Machine Tool Co., Conneaut, Ohio
Kearney & Trecker Corp., Milwaukee, Wis.
LeBlond Mch. Tool Co., R. K., Cincinnati, O.

Milling Machines, Universal

Kearney & Trecker Corp., Milwaukee, Wis.
LeBlond Mch. Tool Co., R. K., Cincinnati, O.

Milling Machines, Vertical

Kearney & Trecker Corp., Milwaukee, Wis.
LeBlond Mch. Tool Co., R. K., Cincinnati, O.
Taylor & Fenn Co., Hartford, Conn.

Name Plates, Etched and Stamped

Schwerdtle Stamp Co., Bridgeport, Conn.

Nibbling Machine

National Machine Tool Co., Racine, Wis.

Classified Finding Index

Nut Setters, Electric

Cincinnati Electrical Tool Co., Cincinnati, O.
Standard Electrical Tool Co., Cincinnati, O.

Nuts, Machine Screw

Elco Tool & Screw Corp., Rockford, Ill.

Oil, Cutting

Sun Oil Co., Philadelphia, Pa.

Oil, Lubricating

Sun Oil Co., Philadelphia, Pa.

Pins, Leader And Dowel

Baumback Mfg. Co., E. A., 1812 So. Kilmourne Ave., Chicago

Pipe Plugs, Square Head and Slotted

Elco Tool & Screw Corp., Rockford, Ill.

Polishing and Buffing Machines

Cincinnati Electrical Tool Co., Cincinnati, O.
Excelsior Tool & Mch. Co., E. St. Louis, Ill.
Mall Tool Co., 7730 S. Chicago Ave., Chicago
Standard Electrical Tool Co., Cincinnati, O.

Presses, Arbor

Atlas Press Co., Kalamazoo, Mich.
Sheldon Machine Co., Railway Exchange Bldg., Chicago, Ill.
Wilson, R. K., Buffalo, N. Y.

Presses, Punch

Lewthwaite Mchs. Co., T. H., 311 E. 47th., N. Y.

Pulley Machinery

Avery Drilling Machine Co., Cincinnati

Profiling Machines

Wade Tool Co., Waltham, Mass.

Pulleys, Iron, Solid and Split

Conway Clutch Co., Cincinnati, O.

Punch Press Feeds

Wittak Mfg. Co., 4309 W. 24th Place, Chgo.

Punch, Shear and Bender, Hand

Armstrong-Blum Mfg. Co., 341 N. Francisco Ave., Chicago

Punches, Hand

Armstrong-Blum Mfg. Co., 341 N. Francisco Ave., Chicago
Lewthwaite Mchs. Co., T. H., 311 E. 47th., New York
Whitney Metal Tool Co., Rockford, Ill.

Punches and Dies

Lewthwaite Mchs. Co., T. H., 311 E. 47th., N. Y.

Punches and Shears

Excelsior Tool & Mch. Co., E. St. Louis, Ill.

Pyrometers

Illinois Testing Laboratories, Inc., 150 W. Austin Ave., Chicago

Reamers, Adjustable

Cleveland Twist Drill Co., Cleveland, Ohio.

Reamers, Portable Electric

Standard Electrical Tool Co., Cincinnati, O.

Riveters, Multiple Spindle

Grant Mfg. & Mchs. Co., Bridgeport, Conn.

Riveters, Pneumatic

Grant Mfg. & Mchs. Co., Bridgeport, Conn.

Riveting Machines

Grant Mfg. & Mchs. Co., Bridgeport, Conn.
Townsend Mfg. Co., H. F., Hartford, Conn.

Roll Cutters

Armstrong-Blum Mfg. Co., 341 N. Francisco Ave., Chicago
Lewthwaite Mchs. Co., T. H., 311 E. 47th., N. Y.

Roll Forming Machines

McKinney Tool & Mfg. Co., Cleveland, Ohio

Classified Finding Index

Saw Sharpening Machines

Wardwell Mfg. Co., Cleveland, O.

Saws, Electric Hand

Porter-Cable Machine Co., Syracuse, N. Y.

Scraping Machines, Hand & Pneumatic

Anderson Brothers Mfg. Co., Rockford, Ill.

Screw Drivers, Electric

Cincinnati Electrical Tool Co., Cincinnati, O.
Standard Electrical Tool Co., Cincinnati, O.

Screw Driving Machines, Automatic

Kernside Machine Co., Massillon, Ohio

Screw Machines, Automatic

Townsend Mfg. Co., H. P., Hartford, Conn.

Screws, Cap, Drive, Lag, Nch. & Wood

Elec Tool & Screw Corp., Rockford, Ill.

Set-Up Appliances

Standard Shop Equip. Co., Philadelphia, Pa.

Shells, Flexible

Mall Tool Co., 7730 S. Chicago Ave., Chgo.
Strand Co., N. A., 8001 N. Lincoln St., Chgo.

Shaping Machines

Osborne & Sexton Machy. Co., Columbus, O.
Smith & Mills Co., Cincinnati

Shears, Alligator

Canton Foundry & Machine Co., Canton, O.

Shears, Hand

Armstrong-Blum Mfg. Co. 341 N. Francisco
Av., Chicago
Lewthwaite Machine Co., T. H., 311 E. 47th
St., New York
Whitney Metal Tool Co., Rockford, Ill.

Shears, Slitting

National Machine Tool Co., Racine, Wis.

Special Tools and Machinery

American Tool Works, Inc., Hartford, Conn.
Superior Machine & Eng. Co., Detroit, Mich.
Wade Tool Co., Waltham, Mass.

Speed Reducers, Worm, Spur and Herringbone

Boston Gear Works Sales Co., Norfolk
Downs, Mass.
Chicago Gear Works, 769-773 W. Jackson
Blvd., Chicago
Cullman Wheel Co., 1859 Altgeld St., Chgo.

Spot Welding Machines, Speed.

Kaiser Electric Corporation, Newark, N. J.

Sprockets

Chicago Gear Works, 769-773 W. Jackson
Blvd., Chicago
Cullman Wheel Co., 1859 Altgeld St., Chgo.
Massachusetts Gear & T. Co., Woburn, Mass.

Stamps, Steel and Rubber

Schwerdtle Stamp Co., Bridgeport, Conn.

Stencils, Brass and Oil Board

Schwerdtle Stamp Co., Bridgeport, Conn.

Straightening Machines

Whitney Metal Tool Co., Rockford, Ill.

Stud Setters

Proconer Safety Chuck Co., 14 S. Clinton
St., Chicago

Tap Extractors

Walton Co., Hartford, Conn.

Tap Holders

Proconer Safety Chuck Co., 14 S. Clinton
St., Chicago

Tapping Machines and Attachments

Avery Drilling Machine Co., Cincinnati
Burke Machine Tool Co., Cosmeset, Ohio
Cincinnati Electrical Tool Co., Cincinnati, O.
Etico Tool Co., Inc., 594 Johnson Ave.,
Brooklyn, N. Y.
Leland-Gifford Co., Worcester, Mass.
Proconer Safety Chuck Co., 14 S. Clinton
St., Chicago
Whitney Metal Tool Co., Rockford, Ill.

Threading Machines, Automatic, Stud

Grant Mfg. & Mch. Co., Bridgeport, Conn.

Threading Tools

Armstrong Bros. Tool Co., 808 N. Francisco
Av., Chicago

Tool Holders

Armstrong Bros. Tool Co., 808 N. Francisco
Av., Chicago
Western Tool & Mfg. Co., Springfield, O.
Wilder Tool Co., Greenfield, Mass.

Classified Finding Index

Tools, Boring

Armstrong Bros. Tool Co., 308 N. Francisco
Av., Chicago

Tools, Lathes and Planer

Armstrong Bros. Tool Co., 308 N. Francisco
Av., Chicago

Tools, Machinists'

Armstrong Bros. Tool Co., 308 N. Francisco
Av., Chicago

Tube Flanging Machines

Grant Mfg. & Mch. Co., Bridgeport, Conn.

Turntables

Canton Foundry & Machine Co., Canton, O.

Universal Joints

American Tool Works, Inc., Hartford, Conn.
Boston Gear Works Sales Company, Norfolk
Downs, Mass.

Used and Rebuilt Machinery

Automatic Machine & Engineering Co., Inc.,
Detroit, Mich.

Bennett Machinery Co., 30 Church St.,
New York, N. Y.

Bernstein & Co., Geo. M., 221 N. Elizabeth
St., Chicago, Ill.

Brandt, W. E., Pittsburgh, Pa.

Brotherhood & Son, Percy M., 25 Church
St., New York, N. Y.

Brown Machinery Co., St. Louis, Mo.

Brownell Machinery Co., Providence, R. I.

Cincinnati Mch. & Supply Co., Cincinnati, O.

Delta Equipment Co., Philadelphia, Pa.

Donahue Steel Products Co., 74th and
Ashland Ave., Chicago

Eastern Machinery Co., Cincinnati, O.

Easley Machinery Co., E. L., 551 Washington
Bldg., Chicago

Geckel, Arthur P., Cleveland, Ohio

Hill, Clarke & Co., 649 W. Washington
Bldg., Chicago

Hyman & Sons, Joseph, Philadelphia, Pa.

Indiana-Michigan Machinery & Supply Co.,
Indianapolis, Ind.

Interstate Mch. Co., 180 S. Clinton, Chgo.

Iroquois Machinery Co., Buffalo, N. Y.

Johnson & Sons Machinery Co., Wm. C.,
St. Louis, Mo.

Jones Machine Tool Co., Cincinnati, Ohio

Jones Machinery Co., Detroit, Mich.

Long Machinery Corporation, Boston, Mass.

McDonald Machinery Co., St. Louis

Mar-Galbreath Mch. Co., Pittsburgh, Pa.

Midland Steel & Equipment Co., 400 South
Clinton St., Chicago, Ill.

Mid-West Machine Tool & Supply Company,
Davenport, Iowa

Miles Machinery Co., Saginaw, W. S., Mich.

Molitor Machinery Co., Chas., 118 S. Clinton
St., Chicago

Nelson Machinery Co., Green Bay, Wis.

Norton-Broadway Mch. Co., Cincinnati, O.

O'Brien Machinery Co., Philadelphia

Osborne & Sexton Mch. Co., Columbus, O.

Parsons Machinery Co., Cincinnati, O.

Reeve-Fritts Co., 558 W. Washington, Chgo.

Reliance Machinery Sales Co., Pittsburgh, Pa.

Russell Machine Co., Pittsburgh, Pa.

Used and Rebuilt Machinery—Cont.

Scott-Sanabash Mch. Co., 4807 W. 20th St.,
Chicago

Seyfert's Sons, Inc., L. F. Philadelphia, Pa.

Strafer Machinery Co., Jersey City, N. J.

Strong, Carlisle & Hammond Co., Cleveland,
Ohio

Taylor-Hall Welding Corp., Worcester, Mass.

United Mch. & Supply Co., St. Louis

Wachs-Gregg & Co., 117 N. Jefferson St.,
Chicago

Wertman Mch. Co., M. A., Cleveland, O.

West Penn Machinery Co., Pittsburgh, Pa.

White Mch. Co., A. D., 108 N. Jefferson
St., Chicago

Wigglesworth Mch. Co., Cambridge, Mass.

Vises, Drilling Machine

Armstrong-Stum Mfg. Co., 341 N. Francisco
Av., Chicago

Armstrong Bros. Tool Co., 308 N. Francisco
Av., Chicago

Graham Manufacturing Co., Providence, R. I.

Martin Tool & Die Works, J. E., Springfield, O.

Punket Mch. Co., J. E., 215 N. Ada, Chgo.

Sheldon Machine Co., Railway Exchange
Building, Chicago, Ill.

Vises, Machinists'

Punket Mch. Co., J. E., 215 N. Ada, Chgo.

Western Tool & Mfg. Co., Springfield, O.

Vises, Milling Machine

Graham Manufacturing Co., Providence, R. I.

Punket Mch. Co., J. E., 215 N. Ada, Chgo.

Sheldon Machine Co., Railway Exchange
Building, Chicago, Ill.

Vises, Shaper

Graham Manufacturing Co., Providence, R. I.

Punket Mch. Co., J. E., 215 N. Ada, Chgo.

Sheldon Machine Co., Railway Exchange
Building, Chicago, Ill.

Welding Machines, Electric Spot

Esler Electric Corporation, Newark, N. J.

Welding Machines, Resistance

Esler Electric Corporation, Newark, N. J.

Wheel Dressers, Abrasive

Industrial Diamond Co., Detroit, Mich.

Wood Screws

Elio Tool & Screw Corp., Rockford, Ill.

Woodworking Machinery

Porter-Cable Machine Co., Syracuse, N. Y.

Worms

Massachusetts Gear & T. Co., Woburn, Mass.

Analysis of Circulation of HITCHCOCK'S MACHINE TOOL BLUE BOOK

By Dun and Bradstreet Ratings

(Corrected to December 1st, 1931)

To domestic concerns, and superintendents, works managers, production engineers, master-mechanics, etc., in such concerns rated at—

Exceeding \$1,000,000.....	2,181
\$500,000 to \$1,000,000.....	1,603
\$300,000 to \$ 500,000.....	1,529
\$200,000 to \$ 300,000.....	1,367
\$125,000 to \$ 200,000.....	1,784
\$ 75,000 to \$ 125,000.....	1,985
\$ 50,000 to \$ 75,000.....	1,417
\$ 20,000 to \$ 50,000.....	2,992
\$ 10,000 to \$ 20,000.....	1,983
\$ 5,000 to \$ 10,000.....	1,625

TOTAL to Private Concerns of over \$5,000.. 18,466

Steam and Street Railway Mechanical and Purchasing Officials, Government and Municipal Plants, Technical Schools, Electric Power Plants, Selected Foreign Importers and Users, Etc.,.....	3,411
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TOTAL to Buyers of Known Responsibility.. 21,877

*Concerns quoted in Dun or Bradstreet, but without Capital Rating..... 2,116

Concerns not yet in either Dun or Bradstreet, which includes new industries..... 961

Concerns rated \$3,000 to \$5,000..... 465

Miscellaneous 195

TOTAL CIRCULATION 25,614

*This group includes a considerable number of large concerns, and some small ones of high credit, whose capital rating is not given by either of the commercial agencies.

Used and Rebuilt Machinery Section

Lists of Used and Rebuilt Machinery, either For Sale, Wanted, or For Exchange, set in uniform style, will be published in the Classified Section at the rate of 50 cents a line across the page, each issue, plus \$3.00 for name and address. Minimum charge, \$6.00. No display permitted.

Write directly to those offering the machines for sale, for prices and full descriptions. If what you seek is not advertised, use the blank enclosed to make known your wants in either new or used machinery, and the publisher will pass them along to the advertisers.

FOR SALE BY

Geo. M. Bernstein & Co., - 221 No. Elizabeth St., Chicago, Ill.
 Drill press, Fox four spindle, No. 1 m. t. \$ 40.
 Lathe, 24"x12" Springfield, raising blocks to 36", complete. 225.
 Lathe, 16"x6" Pratt & Whitney, taper attachment, collets. 210.
 Pipe threader and cut-off machine, 4" Stover. 115.
 Screw press, die makers, 20 ton Stecher. 175.

FOR SALE BY

Nelson Machinery Co., - 119 N. Pearl St., Green Bay, Wis.
 Grinder, No. 3 Gardner disc, b. b.
 Grinder, 8"x18" Modern self-contained, plain, \$550.00.
 Oven, Swartwout 52 k. w. elec. japan-
 ning, 8"x8"x8" heat. units & control.
 Lathe, 27"x16" Prentice q. c. g., s. p. d.
 Lathe, 30"x24" N. B. P. q. c., d. b. g.
 Planer, No. 2 1/2 New Haven, 30"x8",
 quick return.
 Riveter, No. 3H high spd., hvy. duty

FOR SALE BY

Arthur P. Gockel, - 1817 East 26th St., Cleveland, Ohio
 Bending rolls, Pexto, 72" of 14 ga.
 Bending rolls, Niagara 36" of 10 ga.
 Press, Toledo 92B, d. c. tie rod, 6" st.
 Press, Bliss 5A, d. c. tie rod, 7 1/2" str.
 Press, Cons. 164 d. c. 66" bet. hous.
 Press, Ferracute C 62 notching.
 Shear, Niagara power 36" of 14 ga.
 Welder, Gibbsspot, 35 k. w. 42" arms.
 Wire forming mch., No. 3 Manville.
 Japanning ovens, gas or electric.

FOR SALE BY

United Mchry. & Supply Co., 1241 Walton St., St. Louis, Mo.
 Compressor, 10x12 Chi. pne., b. d.
 Drills, Foote-Burt, gang, 3 to 8 spdl.
 Hammer, Little Giant, 25 lb.
 Lathe, turret, No. 3 Foster.
 Miller, 1 1/2 B Milwaukee universal.
 Presses, (2) Nos. 56 & 35 Toledo b. g.
 Punch, No. 5 H. & J. horizontal.
 Punch and shear, 3/4" in 1/2", double.
 Shaper, 16" Gould & Eberhardt b. g.
 Upsetter, 3" Ajax, m. d., bolt dies.

FOR SALE BY

Interstate Machinery Co., - 130-2 So. Clinton St., Chicago, Ill.
 Auto screw mchs., 3 No. 0 B. & S.,
 1 No. 52, 1 No. 53 Acme, all 5 ma-
 chines for \$325.
 Bending rolls, 14" x 50" 10 ga.
 Brakes, Chi steel hand 818, 1016, 814.
 Can mach'y, comp. outfit, small rnd.
 Drills, radial 5' & 3' Bickford s. p. d.
 Double seamer, No. 3 Bliss with c.s.
 Keyseaters, No. 0 Baker, No. 2
 Mills & Merrill.
 Press brake, 10' 10 ga., motor drive.
 Presses, Nos. 4-5 6 bk. grd., o. b. i.
 Shapers, 7" Rhodes, 26" b. g. Stock.
 Shears, 10 ga. Marshalltown, m. d.

Over A Thousand Hi-Grade Machines At Bargain Prices.

USED AND REBUILT MACHINERY FOR SALE BY

Marr-Galbreath Machinery Co.,

58 Water St., Pittsburgh, Pa.

Abrasive cutter, cap. 3½" tubes.
Air comp. 6, 15, 21, 45, 107, 129, 213 cu. ft.
Auto. lathes, 14" Fay, belt and m.d.
Band saw, 36" Crescent, t. t.
Barrel, 19" x 24", tile lined, b. d.
Bender, hand, 3/16" x 1½" Wallace.
Bender & straight'r, cap. 12" beams.
Blower, No. 40 Connersville.
Blowers, Root No. 4, 500 c. p. m.
Bolt cutter, 4" Geometric, m. d.
Bolt cutter, 1" Wells Bros., m. d.
Bolt cutter, 1" H. & G., motor 3 ph.
Boring mill, 30" King; and Bullard.
Boring mill, 14" Betts, 2 hds., m. d.
Brake, 6" D. & K., 16 ga. hand.
Brake 10" Keene toggle, 16 gauge.
Brake, 8" x 12 ga. power, Chicago.
Brakes, hd, 10" for 18 ga. Robinson.
Broaching mch. No. 4 Oil Gear, m. d.
Broaching mch. Nos. 1 & 3 La Pointe
Chuck, Heald magnetic 1½ x 40".
Chuck, Walker magnetic, 6" diam.
Cold header, 4" W-F., solid die.
Cold saws, Nos. 11½ and 12 Higley.
Crimping roll, 6½" Robinson, 16 ga.
Drills, 14" T. & F., 2 and 3 spindle.
Drills, multiple 10 and 20 spindle.
Drills, No. 14 Silver, hand post.
Drill, 24" Rockford, g. f. taper att.
Drill, 25" Snyder, s. h., b. g.
Drill, radial, 5" Western, g. b., m. d.
Drill, radial, 3½" C-B., g. b. for m. d.
Drill, sensitive radial, 3" Amer. t. a.
Exhauster, with 1½ h. p. motor, 1/60.
Filing mch., Oliver, 1 h. p. mtr. 3/60.
Folders, bench 30" hand (4).
Forging mchs., 1½", 3" & 3½" (steel).
Furnace, rotary annealing, 12" x 8".
Furnaces, oil tempering, 10" x 10" x 10".
Gear hobbers, No. 1 Adams "Farw."
Gear hobber 12" S-S "TRO".
Gear and pinion cutter, No. 3 Sloan.
Gear speed reducer, 3 h. p. 50:1.
Grinder, No. 1 Landis universal.
Grinder, No. 1 LaSalle surface.
Grinder, 18-D. Rowbottom, o. h. b. b.
Grinder, No. 1 Norton tool & cutter.
Grinder, Landis 6" x 30" hyd. cyl. m. d.
Groover, 30" Niagara, hand.
Hack saw, 6x8" Marvel, motor drive.
Hack saw, 12" x 12" Racine.
Hack saw, Peerless, 6" univ. shaping
Hammer, 50 lb. Kane & Roach, pwr.
Ham., 400 lb. No. 10 Beaud., pwr. b. d.
Hammer, 800 lb. Erie stm. forg., s. f.
Hammer, 1000 lb. Chbg., steam drop.
Hoists, chain, 1 to 8-tons capacity.
Keyseaters, No. 2 Baker.
Keyway cutter, 24" Morton, cap. 2½".
Lathe, Sundstrand 7" Mig. type.
Lathe, 14" x 6" Hendey, m. d., t. a.
Lathe, 14" x 6" L. & S. q. c. g., t. a.
Lathe, 16" x 6" Monarch, q. c. g.
Lathe, 16" x 8" Hendey, tiebar, quick
change gear, tapping attach.

Lathe, 14" x 8" W.-B., q. c. g.
Lathe, 16" x 11" Lehman, q. c. g., t. a.
Lathe, 18" x 8" L. & S. sel. hd. m. d. t. a.
Lathe, 18" x 8" D. B. G., q. c. g. chuck.
Lathe, 19" x 10" LeBlond, q. c. g., t. a.
Lathe, 20" x 12" Monarch, q. c. g., t. a.
Lathe, 22" x 10" American, q. c. g., t. a.
Lathe, 24" x 13" Lehman, g. h., q. c. g., t. a.
Lathe, 30 x 15" Lehman, gd. hd.
Lathe, 32" x 16" Pgh., q. c. g., chuck.
Lathe, 32" x 20" geared head, m. d.
Miller, No. 2 B. & S. univ. index. hd.
Miller, No. 28 Ohio pi. auto. feeds.
Miller, plain No. 3 B. & S.
Miller, No. 3 LeBlond, plain.
Miller, universal No. 4 B. & S.
Miller, vert., Becker, Nos. 3 & 5-B.
Miller, auto. No. 2-M P. & J., s. p. d.
Motor, 8 h. p. 500 v. d. c., 1500 rev.
Motor, 20 h. p. 220 v. d. c., 350/1050 rev.
Motor, 25 h. p. slip r., 3/60/220/1160.
Pipe benders, 2" Chgo & Wallace.
Pipe mche, 10" EC & B., 6" Oster.
Planer, 30" x 10" W. & P., 2-heads.
Press, 76-D Pexto, d. c., 10,000 lbs.
Press, No. 14 Toledo horn.
Press, F-162 Ferracute, foot power.
Presses, No. 3 Bliss, punch type.
Presses, o. b. i., No. 1 Toledo.
Press, No. 19, Bliss o. b. i.
Press, o. b. i. No. 3 Niagara, 1½" str.
Presses, foot, No. 87 Bliss, pendulum.
Press, No. 6 Perkins, s. a., 4000 lbs.
Presses, No. 67 Niagara, screw.
Punches, s. e. 36", 48", 60", 72" thts.
Punch, s. e., Badger, 7" thrt., 3" x 8".
Punch, No. 13 Niagara hand power.
Punch, Rapid, 20" tht., 1" x 1", m. d.
Punch & shear, No. 17 Badger comb.
Punch & shear, d. e. 16" thts: 1½" x 1" with angle & barshear blades, m. d.
Punch & stake riveter, No. 123-C.
Toledo boiler makers.
Riveter, Grant No. 101, 5/16" cap.
Riveters, 1-AA, 3-A, 5½ B, hi. speed.
Rolls, 30" x 11", 31½" x 3".
Rolls, hand, 31" x 2" P. S. & W.
Screw machine, No. 6G B. & S.
Screw mch., 10" P. & W., wire feed.
Shaper, 7" Rhodes, vert. ram. m. d.
Shaper, 16" Cin., b. g., crank.
Shaper, 20" G. & E., b. g., vise.
Shaper, 24" G. & E., gear box, s. p. d.
Shaper, 28" S. & M., b. g., crk., A-1.
Shear, 42" x 1½" Niagara, 18" gap.
Shears, 4" & 4" Lennox, throatless.
Shear, foot, 30" x 20 gauge.
Shear, 16" gap, 42" x 10 ga. Niagara.
Shears, Alligator, 1½", 2", 2½" & 3".
Shear, alligator, No. 2 Badger, 2".
Shear, rotary, 12" thrt., cap. 10 ga.
Shear, rotary, 16 ga., Yoder, 24" thr.
Shear, squaring, 8" x 14 ga. power.
Shear, squaring, 60" x 14 ga. Canton.
Shear, 10" x 16 ga. Ohi power.

USED AND REBUILT MACHINERY

Marr-Galbreath Machinery Co.—Continued

Slotter, 15" Dill, for motor drive.
Tappers, No. 2 Garvin, vertical.
Thread. mch., 1/4" Geometric.
Tube cutter, Fox 2 1/2" cap.

Turret lathe, 28" Gisholt, 9 1/2" h. s.
Turret lathe, 26" x 7 1/2" h. s., Libby
Wheel press, 60-ton W. S., 34" x 5 1/2"

FOR SALE BY

Randle Machinery Co.

Air compressors, all sizes and types.
Arbor press, Nos. 2 and 4 Greenerd.
Beading machine, Quickwork univ.
Beading mche., No. 624, Pexto, m.d.
Bending rolls, 8" x 14 ga.
Bending rolls, all sizes & types.
Bolt cutter, 1 1/2" Landis.
Boring mills, 24" to 14".
Brake, No. 619 & No. 814 D. & K.
hand power.
Brake, 10" x 10" ga D. & K., leaf, m.d.
Brake, 8" & 10" x 10 ga. Ohl.
Brake, 10" x 3/16" D. & K. press, m.d.
Drills, all sizes and types.
Grinder, No. 14—20" Gardner.
Grinder, No. 24—53" Gardner.
Keyseaters, No. 8 Catlin & Davis.
Lathe, 11" x 3' Monarch Jr. cone dr.
Lathe, 12" x 4' Sebastian, m. d.
Lathe, 16" x 8' Sebastian, m. d.
Lathe, 24" x 12' Cisco geared head.
Lathe, 26" x 12' Wickes semi q. c.
Lathe, 42" x 45' Putnam.

1733 Powers St., Cincinnati, Ohio

Lathe, 93" x 28" Johnson.
Milling mche. No. 0 Steptoe b. g. pl.
Milling machine, No. 2 LeBlond
universal motor drive.
Pipe bender, No. 5 B Wallace.
Pipe bender, Smith & Pedrick.
Pipe machine, 2" & 6" Landis.
Press, No. 5 Bliss d. c.
Press, No. C-2 Ferracute.
Press, No. 91B Toledo d. c.
Press, No. 3 Amer. openback, m. d.
Saw, 6x6 Excelsior (new) #57.
Shapers all sizes and type.
Shear, No. 848. No. 662 Niagara.
Shear, 10" x 12 ga. Bertsch.
Shear, 10" x 14 ga. Stoll, m. d.
Shear, 10" x 3/16" Long & A., m.d.
Shear, No. 6 L. & A. universal.
Shear, Southwark rotary, 8 ga.
Shear, No. 38 Marshalltown m. d.
Welders, 100 to 300 amps., arc.
Wheel press, 100 to 300 tons.
Wheel press, 150 ton Caldwell, #400.

Also many other bargains. Send us your inquiries.

FOR SALE BY

Percy M. Brotherhood & Son, - 25 Church St., New York, N. Y.

PRESS BRAKES

Ohl 10"—No. 10 gauge.

Ohl 12" 6"—3" gauge.

Chicago 10" 6"—3/16" gauge.

Chicago 10" 6"—1" gauge.

Cincinnati 8" 6"—No. 10 gauge.

Cincinnati 8" 6"—No. 12 gauge.

LEAF TYPE BRAKES

Chicago 10"—3/16"; 1/2"; 3/4".

DIE SINKERS

Pratt & Whitney Nos. 1, 2 and 3.

Jackson No. 10.

LATHES

63" x 30" geared head.

48" x 30" geared head.

48" x 40" geared head.

18" x 30" x 20" gap.

42" x 70" x 16" gap.

24" x 48" x 12" McCabe.

PIPE MACHINES

12" Curtis, motor drive.

6", 8", 10" Signal & Keeler.

PUNCHES AND SHEARS

Buffalo No. 27 Universal.

Ryerson No. 4 Combination.

Pels, Nos. 10, 13, 16 and 23.

Hilles & Jones No. 5—54".

Hilles & Jones 45" plate, 1"—1".

Hilles & Jones 72" plate, 1".

Unishear 36"—1/2", motor drive.

MISCELLANEOUS

Bending rolls, 4' to 30'.

Drills, all kinds.

Gang splitter, L. & N. 36".

Millers, plain and universal.

Millers, planer type, 24" to 60".

Nibbler, Gray 30", capacity 3/16".

Planers, all sizes, 24" to 120".

Planers, plate, 16" to 24".

Radial drills, 3" to 72".

Shapers, 16" to 36".

Send for our list.

USED AND REBUILT MACHINERY

FOR SALE BY

Brown Machinery Co.,

Drills: 24", 26" and 32" Barnes and Rockford; 4-spindle Moline hole hog No. 66D.

Gear hobbors, G. & E. 12" and 24".

Grinders: No. 6 Besly dbl. spindle;

No. 220 Badger auto. disk; 12x30"

Modern, plain s. c. c. s.

Hammer: 40 lb. Bradley, helve; 50 lb.

Mayer upright.

Lathes, 30" x 12' Blaisdell; 26" x 12'

Write for prices; send us your inquiries for shop equipment and sheet metal working machinery. We have the stock.

2333 N. 9th St., St. Louis, Mo.

Putnam, hvy. duty; 18"x8' Prentice geared head; 16"x8' Lodge & Shipley q. c. g.; 16"x6' Monarch.

Millers: No. 2 Hendey-Norton, univ.;

No. 3 $\frac{1}{2}$ Fox; No. 4 Hendey Lincoln.

Press, No. 7 Zeh & Hahneman.

Punch, Cleveland C $\frac{1}{2}$ in $\frac{1}{2}$ "; Rock

River Style L $\frac{1}{2}$ " in $\frac{1}{2}$ ".

Threaders: $\frac{1}{2}$ " Geometric; National

1 $\frac{1}{2}$ " double head.

FOR SALE BY

Brownell Machinery Co.,

150 Pine St., Providence, R. I.

BORING MILLS.

36" Bullard New Era, vertical turret.

No. 2 Binsse horizontal 2 $\frac{1}{2}$ ".

DRILLS.

4-spindle Leland-Gifford h. s., b. b. sensitive, each spindle motor driven

220-60-3-phase motor, p. f.

3-spindle Leland-Gifford h. s., b. b., sensitive, p. f.

3 $\frac{1}{2}$ " American plain radial, s. p. d.

3" Cincinnati-Bickford plain radial,

s. p. d.

26" Barnes adjustable head, b. g.

20" Excelsior.

GEAR CUTTERS AND GRINDERS.

No. 13 Brown & Sharpe auto. gear cutter, 18x4, spur and bevel.

No. 2 Bilton cutter spindle gear milling machine.

No. 3 Brown & Sharpe gear cutter, 26x8, spur.

No. 13 B. & S. universal & tool grinder.

LATHES.

14"x6' Hendey, draw-in attachment.

24"x14' Whitcomb-Blaisdell, q. c. g.

16"x8' Monarch, taper.

24"x27' Fitchburg.

18"x8' Monarch, q. c. g.

30"x20' Fitchburg.

18"x12' Rahn-Larmon.

18"x10' Fay & Scott pattern makers.

20"x12' Monarch, taper.

MILLING MACHINES.

No. 3 Cincinnati highpower vertical, motor driven.

18" Cincinnati b. g. plain.

Model "AB" Becker vertical, s. p. d.

No. O-Y B. & S. plain.

No. 2 Brown & Sharpe universal.

Ingersoll slap 48"x24"x10', two vertical, one horizontal head, m. d.

SCREW MACHINES AND TURRET LATHES.

No. 4 W. & S. grd. friction hd., 1 $\frac{1}{2}$ "

3"x36" Jones & Lamson, chucking.

Acme turret screw mche. 1 $\frac{1}{2}$ "x24"

SHAPERS AND PLANERS.

20" Cincinnati 8-speed gear box shaper, motor driven.

15" Garvin plain shaper.

16" Sellow tool room shaper.

24"x24"x6' Whitcomb planer, second belt drive.

MISCELLANEOUS.

Automatic drop hammer, 300 lbs. Standard.

Hammer, Bradley helve power forging, 80 lbs.

Drop hammer, jewelers, 900 lbs. M. & P.

Metal cutting band saw, 6" Houghton & Richards.

Dividing heads, B. & S. full universal with tailstock.

Power press, No. 6 Waterbury f. f. Press, 150-tons Standard knuckle joint

Flexible shaft grinders, $\frac{1}{2}$ and $\frac{3}{4}$ h. p., 220-60-3-phase.

embossing, 4" stroke.

Hack saw, 6"x6" Peerless universal.

Rolling mill, 5"x8" Ruesch.

Swaging machine, No. 4 Torrington

WOOD WORKING.

Band saw, 36" Crescent.

Jointer, 12" Oliver ball bearing.

Boring mche., White vert. & hor.

Planer, S. A. Woods 24"x5".

USED AND REBUILT MACHINERY

FOR SALE BY

West Penn Machinery Company

1208 House Building,

Pittsburgh, Pa.

Automatic, No. 0 Brown & S. b. d.
Air compressors, 30 to 2500 cu. ft.
Bender, pipe, No. 6-C Wallace, m. d.
Blowers, No. 3 North American.
Blower, Spencer turbine, 1800 c. f.
Bolt cutter, 24" Acme, sgl. hd. m. d.
Bolt cutter, 14" Landis, dbl. head.
Bolt cutter, 1" Landis, 3 hds., m. d.
Bor. mill, 48" Bullard Maxi. 2 hds.
Boring mill, 72" Betts, 2 hds. m. d.
Boring mill, 10'-16' Betts, 2 hds. m. d.
Boring mill, 16'-24' Niles, 2 hds. b. d.
Bor. mill hor., No. 1 Cleve. 24" bar.
Boring mill, floor type, 4" Bement.
Brake, 5' press type, 10 gauge.
Brake, 6' hand, 16 gauge.
Brake, 8' D. & K. 10 ga. box & pan.
Brake, 10' Dreis & K. 3/16".
Bulldozers, Nos. 2, 4, 6, 28, 29 & 30.
Die threader, Smalley General, dies.
Dieing mchs., 25 & 50 ton H. & W.
Die sinker, No. E-3 Keller, m. d.
Drill, 21" Rockford, tap. att. m. d.
Drill, No. 3 Defiance, No. 5 M. T. m. d.
Drill, radial, 24" Fosdick, t. a., b. d.
Drill, radial, 4" Prentice, t. a., b. d.
Drill, radial, 5" Dreses, motor on arm
Drill, radial, 6" Dreses, s. p. d.
Flanger, McCabe, 4" capacity, dies.
Gear cutters, 11", 24" & 36" Gleason.
Gear cutter, spur, 36" x 10" Newark.
Gear hobber, No. 3 Sch. & Sch. 118".
Gear planer, 20-ft. Gleason, m. d.
Gear tester, 18" Gleason, bevel.
Grinder, centerless, No. 2 Cincinnati.
Grinder, internal, No. 70 Heald.
Grinder, rad., 14" M. & D., m. d.
Grinder, surface, No. 16 Blanchard.
Grinder, surface, 14" Arter.
Grinder, surface, No. 2 Reid, b. d.
Grinder, tool & cut., No. 2 Walker.
Hammer, Blacker, power, 35-lbs.
Hammer, 80-lb. Bradley, cush. helve.
Hammer, 200-lb. Bradley, cush. helve.
Hammer, 200-lb. Bradley, compact.
Hammers, Nos. 3-B, 4-B, 4-N Nazel.
Hammers, steam, 600 lb. to 6000 lbs.
Jacks, 35-ton Barrett, ball bearing.
Keyseater, No. 2 Mitts & Merrill.
Lathe, 16" x 16" LeBlond, q. c. g. d. b. g.
Lathe, 20" x 8" Hendey, tie bar. t. a.
Lathe, 24" x 16" Bridgeford, g. hd. m. d.
Lathe, 36" x 24" L. & S. selec. grd. hd.
Lathe, 48" x 26" Bridgeford, g. hd. m. d.
Lathe, turret, No. 6 Warner & S.
Lathe, turret, 18" Libby, m. d.
Lathe, turret, 24" Steinle, 64" hole.
Lathe, tur., 28" Gisholt, 9" hole. m. d.
Lysholm tables, 72" x 30".
Miller, plain, No. 2-A Milwaukee.
Miller, universal, No. 3 LeBlond
Miller, vertical, No. 2 Cincinnati.
Miller, slab, 48x48" x 20' adj. rail.

Nut tapper, 6-spindle Acme, 2".
Nut tapper, 10-spindle Acme, 14".
Pipe machine, 2" Landis.
Pipe mchs., 8" Oster, 8" Williams.
Planer, 30" x 30" x 10' Woodward & P.
Planer, 48" x 48" x 18' Cinti., belt drive.
Planer, o. s., 36" x 36" x 16' D. & H.
Planer, o. s., 48" x 48" x 16' D. & H. m. d.
Planer o. s. 60" x 60" x 14' Cleve. m. d.
Planer, rotary, 48" Niles, m. d.
Presses, arbor, Nos. 7, 17 Greenerd.
Press, o. b. i. Ferracute Cl. 3" stroke.
Press, o. b. i. CG-6 Ferracute, 12000 lbs.
Press, hydraulic, 1,000 ton United.
Press, hyd. 100-ton Watson Stillman.
Press, s. s., 13" x 19", 2" stroke.
Press, No. 783 Bliss, t. r. 10" str.
Press, No. 92 B Toledo, d. c. 24" str.
Press, No. 6 Bliss, d. c. 5" stroke.
Press, No. 95-C Toledo, 4" str. d. c.
Press, No. 96-A Toledo, d. c. 5" str.
Press, screw, No. 87 Niagara.
Press, wheel, 150-ton Schaffer.
Punch, hor., Cleveland, 1" thru 1".
Punch, hand, Shatz, bar and angle.
Punch & sh. No. 6 L. & A. 1/2" thru 1".
Punch, multiple, No. 5 H. & J. 10".
Riveters, air, hammer, spinning.
Rolls, bending 8" x 1/2" Bertsch, b. d.
Rolls, bending, 12" x 1/2" H. & J. d. e.
Roller, thread, Nos. 40 & 50 W. - F.
Sand blast, Pangborn, 90", ER-1.
Saw, band, metal No. 2 Klem, m. d.
Saw, cold, 48" Newton, m. d.
Saw, friction, Nos. 2 & 3 Ryerson.
Saw, hack, No. 5 Marvel, b. d.
Saw, univ., Peerless, 6" x 6", m. d.
Screw mch., No. 2 B. & S wire feed
Shapers, 16", 20", 24" & 36" G. & E.
Shaper, 24" Smith & Mills, m. d.
Shaper, 48" Morton, draw cut.
Shear, angle, 6" x 6" x 1/2" Cleveland.
Shears, alligator, 14", 2", 3" & 4".
Shear, bevel, Lennox 4".
Shear, gang splitter, No. 235-A Bliss.
Shear, Cleveland "W" 3" capacity.
Shear, rotary, 4" Ryerson.
Shear, 36" x 16 ga. Pexto, foot.
Shear, squaring 8' x 16 ga. Ohl.
Shear, 54" x 1/2" Garrison, 24" gap.
Shear, 12" x 1/2" Wheeling, 31" gap.
Slotter, 18" Dill, m. d.
Straightener, 60" Nat. 14 ga. 17 rolls.
Straight'r, 48" United, 16 ga. 13 rolls.
Straightner, 1 1/2" round Abramson.
Straightener, 4" round Abramson.
Straight'r, No. 2-AK & R. 20 roll, m. d.
Swaging mche., No. 5-A Standard.
Testing mchs., 100,000 & 200,000-lb.
Tumbling barrel, 18" x 36", b. d.
Upsetters, 1" to 6".
Welder, Allis-Chal. arc, cap. 1" rod.
Welders, spot and butt.

USED AND REBUILT MACHINERY

FOR SALE BY

The Reeve-Fritts Co., 558-560 W. Washington Blvd., Chicago, Ill.

Drill, 6-spindle H & W., b. b.
Drill, 2-spindle Leland, p. f.
Drill, 2-spindle Leland, p. f., t. a.
Gear hobber, No. 1 Adams.
Lathe, 14"x6" Hendey.

Lathe, 18"x6" Ryerson q. c. g.
Miller, No. 2 Rockford plain.
Pinion cutter, No. 1 S. & C. auto.
Planer, 24x24x6 American.
Power press, No. 5 Rockford, o. b. i.

FOR SALE BY

Miles Machinery Co., Saginaw, W. S., Mich.

AUTOMOTIVE GRINDERS

16"x48" Landis crankshaft.
16"x72" Landis crankshaft.

16"x52" Landis crankshaft.
No. 65 Heald cylinder.

UPRIGHT DRILLS

20" Buffalo plain.
20" Excelsior, b. g., p. f.
21" Cincinnati, b. g., p. f.
22½" Barnes, b. g., p. f.

24" Cincinnati, s. h., b. g., p. f.
26" Barnes, s. h., b. g., p. f., t. a.
28" Aurora, s. h., b. g., p. f.
30" Sibley, s. h., b. g., p. f.

HAMMERS

No. 3 Nazel pneumatic.
200 lb. Standard drop.
40, 100 & 150 lb. Bradley.

No. 2 Pettingell sheet metal.
600 lb. Niles Bement Poud steam.
25 lb. United upright.

KEYSEATERS

¾" No. 0 Mitts & Merrill.
1" No. 0 Baker.

1½" No. 2 Mitts & Merrill.
2½" No. 4 Mitts & Merrill.

PLANERS

22"x22"x 4' Powell.
30"x30"x 8' Gray.
30"x30"x 12' Cleveland openside.

32"x32"x12' Niles.
36"x36"x 8' Gray.
48"x48"x10' Liberty.

1200 TOOLS IN STOCK.

FOR SALE BY

A. D. White Machinery Co., 108 N. Jefferson St., Chicago, Ill.

Automatic, Gridley 4-spindle, 1½" and 2" motor drive.
Automatic, Cleveland ½"-¾" model A, rebuilt. (2).
Bolt cutters, 3½" and 4" Acme, single head, rebuilt.
Drills, 3-spindle Allen and Henry & Wright ball bearing.
Drills, 6-spindle Allen ball bearing, 22½ volt 60 cycle motor.
Drills, 26" Barnes back geared, sliding head.
Grinder, 6"x32" Norton plain cylindrical, very good.
Grinder, 14"x72" Norton plain cylindrical.
Grinder, Oesterlein tool & cutter, 440 volt, 3 phase, 60 cycle motor.
Hammer, 60 lb. Bradley cushion helve.
Miller, No. 1½ B Kearney & Trecker vertical, with rotary table.
Miller, No. 6 Becker vertical, with rotary table.
Miller, No. 24 Cincinnati automatic, 220 volt, 3 phase, 60 cycle motor.
Miller, No. 4 Cincinnati 36" hydromatic, motor drive, used 5 days.
Planer, Cincinnati 24"x6" Tu-Speed.
Planer, 36"x15" Betts, 2 heads.
Presses, 7 No. 5 Loshbough-Jordan inclinable, geared, 4" to 5½" stroke.
Presses, 2 No. 90 Toledo double crank, 4" stroke.
Presses, No. 75½ Bliss straight side, geared, 8" stroke.
Presses, No. 426½ Hamilton double crank 8" stroke, with a. c. motor.
Press, No. 8 Bliss, double crank, 10" stroke, 52" wide, 30 h. p., 220 volt, 3 phase, 60 cycle motor. Good as new.
Punch and shear, Pels combination No. 10, with built-in coper.
Screw machine, hand, No. 3 & 4 Bardons & Oliver, several of each.
Screw machine, hand, No. 2 Foster, one plain head, other geared, rebuilt.

USED AND REBUILT MACHINERY

FOR SALE BY

Strafer Machinery Company,

14th and Provost St.,

Jersey City, N. J.

BENDING ROLLS.

H. & J. 10'6"x11" drop end, m. d. | B. S. 17'6"x11" drop end, m. d.

BORING MILLS

72" Sellers rapid trav. modern, m. d. | 51" N.-B.-P. speed box, s. p. d.

PRESSES.

Ferracute 200 ton 82" double crank, | Ferracute S. G. 77, 70" blanking.
400 ton W. S. hydraulic 73"x20". | No. 77½ Bliss, geared.

MISCELLANEOUS.

Boring bars, portable, 4"x8".	Hammer, 400 lb. Chambersburg, steam-air.
Compressor, I. R. 8"x16" horiz. m. d.	Pipe machine, Saunders 6", dies.
Disc grinder, 30" ball bearing.	Planer 48"x16"—4 h. b. d.
Gear hobber, No. 5-A Lees Bradner.	Squaring shear, Niagara 8"x10 ga.
Lathe, 24"x18" Prentice, geared hd.	

FOR SALE BY

Scott-Bansbach Machinery Co., 4607 West 20th St., Chicago, Ill.

Automatic screw machines, No. 00 B. & S., ser. nos. 2232 & 5152.....	\$325—\$400.
Auto. screw mchs. No. 0 B. & S. nos. 3340, 3495, 3831, slotting att. each.....	450.
Automatic screw machine, 1½" Gridley 4 spindle model F.....	500.
Automatic screw machine, 24-34" Cleveland model A, square pan.....	500.
Bolt cutter, 1" Landis complete.....	200.
Drill, 24" Sibley sliding head. b. g. and p. f.....	200.
Drill, 2-spindle H. W., h. s., b. b. heavy duty, class B.....	200.
Gear hobber, S. & S. No. 0, capacity 12"x10"x6½ d. p.....	300.
Gear cutter, B. & S. No. 3 26" for spur gears.....	300.
Grinder, No. 2 Brown & Sharpe automatic surface, magnetic chucks.....	400.
Grinder, Capitol internal, capacity 3/16" to 2"x2".....	150.
Lathe, 18"x6" Hendey quick change, taper attachment serial no 19180.....	500.
Lathe, 18"x7" South Bend q. c. motor driven, 2 chucks.....	500.
Lathe, 18"x9" Chard semi-quick change gear.....	325.
Lathe, 18"x8" Davis heavy duty, q. c. g., d. b. g., 14" 4-jaw chuck.....	500.
Lathe, 20"x8" Monarch, d. b. g., q. c. chucks.....	400.
Lathe, 30"x13" H. S. & G. heavy duty, q. c., d. b. g. 16,000 lbs.....	1,250.
Miller, No. 3 Cincinnati, cone drive, old style.....	350.
Miller, No. 3 Kempsmith, cone drive, with c/s and vise.....	600.
Miller, No. 1 Garvin universal, fully equipped.....	450.
Miller, Cleveland universal, No. 1 g. h., fully equipped.....	650.
Miller, No. 2 MU. Garvin universal, fully equipped.....	550.
Miller, 12" Cincinnati, mfg. type, s. p. d., vise and pump.....	250.
Miller, Briggs, G. & E. manufacturing, 16".....	125.
Miller, No. 5 Becker vertical, no rotary.....	500.
Miller, No. 7 Becker, Lincoln type.....	125.
Miller, No. 21 Garvin power feed, oil pump.....	150.
Miller, Hendey, Lincoln type.....	100.
Miller, No. 12 Brown & Sharpe production type.....	100.
Miller, Ingersoll slab, 42"x36"x8".....	1,000.
Planer, 24x24x8 Fitchburg, 1 head.....	200.
Planer, 36"x36"x12" Cincinnati with 2 heads.....	1,200.
Press, No. 1, Consolidated o. b. i. 1½" stroke, 700 lbs.....	90.
Press, No. 30A, Perkins o. b. i. 2" stroke, 1500 lbs.....	150.
Press, No. 4, Niagara o. b. i. 2" stroke, 1700 lbs.....	200.
Press brake, 10' Ohl power, No. 10 gauge.....	1,500.
Saw, No. 5 Marvel high speed 6x6.....	125.
Screw machine, No. 1, B. & O. plain head, 13/16" capacity.....	225.
Separator, Curtis oil, 1 bushel.....	275.
Separator, oil, American 1½ bushel.....	300.
Shaper, 20" Cincinnati, crank, back geared, vise and c/s.....	550.
Turret lathe, 24x10" Milholland, for chuck and bar work.....	650.
Turret lathe, 34"x36" Acme with chucking equipment.....	500.
Turretlathe, 24" Steinle, 4" hole, side carriage.....	300.

USED AND REBUILT MACHINERY

FOR SALE BY

The Jones Machine Tool Co.,

Front & Pike Sts., Cincinnati, Ohio

Boring mill, No. 21 Lucas.....\$1100.
Boring mill, 32 G. & L. bor... 1850.
Car wheel borer, 36" Niles..... 275.
Gear cutter, B. & S. No. 13.... 425.
Gear hobber, No. 1 Farwell... 185.
Gear hobber, No. 12 Barber-C. 390.
Grinder, surf. No. 1 Diamond 590.
Grinder, surf. No. 2 W. & M. 385.
Grinder, 8"x36" Brown & S... 285.

Lathe, 20"x10' L. & S. q. c....\$ 325.
Lathe, 30"x20' Amer. g.h.m.d. 1500.
Miller, No. 2 Cin'ti Hi-Power 850.
Miller, 2 B. & S. universal.... 575.
Miller, 2 M. Cincinnati s. p.... 875.
Miller, 3 Cinti. hi. pr., s. p.... 1100.
Radial, 3' American s. p..... 350.
Radial, 5' American grd. hd... 1375.
Shaper, 24" Queen City b. g. . 460.

Send for Bargain Stock List just issued.

FOR SALE BY

Wigglesworth Machinery Company

199 Bent Street,

Cambridge, Mass.

Automatics, No. 00 Brown & Sharpe \$250.
Automatics, 9/16", 5 spindle National Acme, (like new).
Drill, 3' Cincinnati-Bickford radial.
Grinder, No. 3 Bryant fast hole.
Hammer, No. 3—300 lb. Standard automatic.
Horizontal boring mill, No. 0 Giddings & Lewis.
Keyseater, No. 2 Mitts & Merrill.
Lathe, gap, 19"—30"x8" LeBlond, geared head.
Miller, Thread, 6"x14" Pratt & Whitney, motor drive, (like new).

FOR SALE BY

Wm. C. Johnson & Sons Machinery Co.,

1211-1223 N. 12th St.,

St. Louis, Mo.

Bar shear, 5"x4".
Bolt threader, 1 1/2" Merriman.
Borer, 1 Storm cylinder.
Boring mill, 36" Gisholt.
Die head, 24" Landis.
Drill, 14" Mason high speed.
Drill, 20" Champion.
Drill, 22" Barnes back geared.
Drill, 24" Prentice, sliding head.
Drill, 25" Barnes back geared.
Drill, 28" Barnes sliding head.
Drill, 1-spindle Avey.
Drill, 3-spindle Leland-Gifford.
Drill, 3-spindle Avey.
Drill, 3' Drees radial.
Grinder, Wells Bros. universal.
Grinder, 12"x60" Landis universal.
Grinder, Rottler piston, motor dr.
Hammer, 60 lb. Bradley helve.
Hammer, 600 lb. steam.
Lathe, 18"x10' Bradford.
Lathe, 20"x10' Bradford.
Lathe, 18"x12' Mueller.
Lathe, 24"x12' Lodge & Shipley.
Lathe, 24"x12' Schumacher & Boye.
Lathe, 30"x15' Lodge & S., q. c. g.
Lathe, 36"x15' American, q. c. g.

Lathe, 26"—48"x18' McCabe 2-spdl.
Miller, No. 1 U. S. hand.
Miller, No. 2 LeBlond universal.
Miller, No. 2 Ohio single pulley dr.
Miller, No. 3 Rockford hand.
Miller, No. 5-B Brown & Sharpe.
Pipe machine, 10" Bignall & Keeler.
Pipe and bolt machine, 4" Oster.
Press, No. 57 Swaine straight back.
Press No. 1 1/2 Bliss toggle.
Press, No. 3 Toledo.
Press, Stiles & Parker drawing.
Press, No. 37 Niagara str. back.
Press, No. 24 Toledo cam drawing.
Press, No. 723 Toledo cam drawing.
Press, No. 35 Swaine, o. b. i.
Punch, No. 14 W. W., 12" throat.
Punch, double end, two 20" throats, capacity 1" in 1".
Planer, 42"x42"x26" Wheeler, 2 hds.
Screw machine, No. 3A Warner & S.
Shaper, 16" Smith & Mills.
Shaper, 32" Cincinnati.
Shaper, 24" American-Klopp.
Shear, 48" Excelsior, No. 16 gauge.
Squaring shear, 8' power.
Tapper auto., Rickert & Schafer.

Please say "Blue Book" when writing to advertisers.

USED AND REBUILT MACHINERY

FOR SALE BY

Norton-Broadway Mchy. Co., Sixth & Baymiller Sta., Cincinnati, O.
BORING MILLS.

24" and 36" Bullard New Era. 24" Cleveland horiz., rot. tbl. \$1250.
36" and 51" Niles, 2 hds. \$425 & \$850.

DRILLS AND RADIALS

6' American, gear box, sgl. pul. \$1000. No. 5 Fox mult spdl. 32"x45" \$1250.
4' Morris, single pulley 775. No. 310 Baker heavy duty

LATHES.

60"x16" New Haven. \$1080. 19"x12" Sidney q. c. 685.
36"x22" New Haven, blocks to 18"x8" Mueller, q. c. 350.
44" 675. 17"x8" LeBlond, q. c. 500.
30"x14" Prentice q. c. 13"x54" Willard, geared head.
26"x48"x10" McCabe dbl. sp.. 725. 14"x6" Bradford, q. c.

MILLING MACHINES.

No. 2 Cincinnati univ., cone. \$ 775. No. 4 Cinti. univ. knuckle-joint
No. 2 Cinti. vert., sgl. pulley. 1050. vertical attachment. \$ 975.
No. 4 Cinti. vert., sgl. pulley. 975. No. 4 Becker-Brainard, cone. 675.
No. 3 Cincinnati pl. sgl. pulley 950. No. 4 Brown & S. plain, late.

PLANERS AND SHAPERS.

26"x26"x10" Gray, 1 head. \$ 375. 32"x20" American, 2 heads. \$ 350.
36"x12" D. & H. openside, 3 hds. 1250. 34" Gould & Eberhardt, b. g. 975.
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MISCELLANEOUS.

Automatic, No. 2-G B. & S. \$ 465. Shear, 36" Niagara power,
Grinder, B. & S., planer type. 325. No. 10 ga.
Pipe mchs, Curtis & Curtis 12" 575. Slotter, 26" Dill, motor drive. \$1350.
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Boring mills, 4 Bullard 42" low price.
Brake, D. & K. 6' 10 gauge, power.
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Drill, Foote-Burt 4-sp. No. 2 gang.
Drill presses, Allen and Sipp 4-spdl.
Drills, Cincinnati-Bickford 3' & 34'
radials, gear box drive.
Gear hobber, G. & E. 24".
Grinders, B. & S. No. 2 universal;
B. & S. No. 2 surface, complete.
Grinders, Landis No. 14 int., Landis
16"x42" universal.
Grinder, Pratt & Whitney vert. surf.
Keyseater, Mitts & Merrill No. 2.
Lathes, Hendey 14"x6" q. c. g. grd.
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Sidney 16"x8" q. c. g. LeBlond
16"x8" Whitcomb-B. 22"x8" q. c. g.
Monarch 16"x8"; C. & J. 15"x8";
Superior 18"x8"; L. & S. & Cinti.
16"x6", q. c. g.; American 22"x10"
q. c. g. geared hd.; American 16"x6"
q. c. g.; Lehmann 18"x7" q. c. g.;
40 assorted sizes, quick and loose
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LeBlond No. 3-H; Brown & S.
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Cleve. No. 2 pl.; Ohio 24; Hendey
1-B; Kemp. No. 3; Cin. & B. & S.
No. 14; Ohio No. 29 universal;
B. & S. No. 5 vertical; Cincinnati
18" mfg; Becker No. 3 vertical.
Milling and drilling mchs., Knight
No. 14 with power feed, vertical.
Pipe machine, Curtis 24" to 12" m. d.
Planers, Gray 28"x28"x6", 1 head;
Cincinnati 36"x36"x18" 2 heads;
Pond, 36"x36"x12" table, 18" bed,
2 heads; Flather Gray 24"x24"x6".
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No. 63 straight side geared, Federal
Nos. 1, 2, 3 and 4; Bliss No. 19;
Swaine No. 37; Sidney No. 2, o. b. l.
Screw machine, Cleveland 28" auto.;
P. & W. No. 24 hand; Foster No. 3
hand; Woods No. 2 tilted turret,
Milholland No. 4 b. g. hand; Foster
No. 7 hand b. g.; W. & S. No. 1.
Shapers, S. M. 16"; 24"; Queen City
24" back geared; G. & E. 16", b. g.;
Niles traveling head; Milwaukee
16" b. g.; Walcott 20" b. g.; S. & M.
& Ohio 26" b. g.; Ohio 16", Cin-
cinnati 20", b. g.; Rhodes 7"; Queen
City 16" b. g.; Potter & J. 16".
Square shears, Niagara 62" power,
m. d. 18-ga.; Ohl's power 16 gauge.
Thread miller, Lees-Bradner No. 3 E.
Turret lathes, Warner & S. No. 2 A.

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Automatic, Gridley 9/16" 4-spindle.
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Miller, Ingersoll adj. rail, 68x16.
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Shaper, Potter & Johnston, 15" univ.

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Mid-West Machine Tool & Supply Co.,

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Grinder, 10"x36" Norton.
Grinder, No. 10 B. & S. ext.
Grinder, No. 22 Heald rotary surf.

Davenport, Iowa

Hobbers, Nos. 3, 12-B & C.
Lathe, No. 9 LeBlond multi-cut.
Millers, Nos. 1 & 2 Brown & Sharpe.
Radials, 3' Cincinnati Bickford.
Turret lathe, No. 6 Warner & S.

Partial list; send us your inquiries.

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Bending roll, 25' H & J, 1/2" cap.
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Column facer, 14" Espen-Lucas.
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Drill, 4' Cincinnati-Bickford, radial.
Grinder, 30"x162" Landis, m. d.

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Hammer, 1100 lb. N.-B.-P. sgl. fr.
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Punch and shear, 24" Southwark,
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Shear, 84" Newbold, 1/2" cap., 27" gap.
Shear, 8' Covington squaring, gap
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Drill, 4 spindle Colburn, 24" cap.
Lathe, 16"x8" Hendey, tie bar, taper.
Lathe, 17"-37"x8" gap, sliding bed.
Lathe, 48"x20" Betts-Bridge, a. c. m. d.
Miller, No. 2 Cincinnati univ., attach.
Miller, No. 5 C Becker vertical.
Miller, No. 2-AS Milwaukee, s. p. d.
Press, Toledo No. 4 o. b. l., geared
4" stroke, 3450 lbs.

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Press, No. 96-B Toledo d. c., 60"
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Press, Ferracute o. b. l., 12,000 lbs.
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Shear, circle, Bliss, cap. 14 gauge.
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Tapper, nut, 6 spdl. Acme, cap. 1"
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Grinder, No. 2 Reid surface.
Grinder, No. 29-53 Besly m. d. disc.
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Lathe, 16"x10" Hendey.
Lathes, Sidney, 20"x18" and 25"x12".
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Miller, No. 2 Ohio heavy universal;
No. 3 Van Norman duplex.
Miller, No. 3 Cincinnati, universal.
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Planer, 30"x30"x8" Cleveland open s.
Planer, 22"x22"x4" Whitcomb.
Planer, 36"x36"x14" Chandler.
Press brake, 10'-6" Ohl. 10 ga. cap.
Presses, No. 165-B Consolidated gd.
Presses, Nos. 19 and 21 1/2 Bliss.
Presses, No. 5 Toledo, o. b. l.
Radial, 2 1/2' & 6' Am. 3' & 5' Cin-Bick
Saws, 6"x6" Peerless; No. 12B Higley
Screw mchs., Nos. 5 & 6 Wood tilted
Screw mchs., No. 4 Warner & S.
Shapers, 20", 24" and 32" belt drive.
Shaper, 16" Rockford, s. p. d. cone.
Shear, 10'-3/16" Niagara, m. d.
Turret lathe, No. 1-B Foster chuck.

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Cutting mach. No. 4 Oxygraph A-1.
Dieing mach. 25 and 50 ton Wright.
Drill, Baker Bros. 3 1/2" spindle.
Drill, table, universal 20x20 top.
Engraver, E3 Keller.
Engravers, 1A-1H-1M Gorton.
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Grinder, cyl. Mayer, S. & O. cap.
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Hammer, No. 6-N Nazel.
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Lathe, 18" & 21"x10" South Bend.
Lathe, 36"x18" American, g. h.
Lathe, gap, 18"-30"x8" American ck.

Milling mach., 2M P. & J., s. p. d.
Miller, vert., No. 2 Cincinnati.
Pipe mch., No. 306B Oster, 1 1/2 m. d.
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Press, 95C & 92B Toledo, dbl. cr.
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Punch, 16" Bertsch, 1/2"x1"
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Shaper, 28" Hollingworth.
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Shear, sq., 132"x4" H. & J. No. 6.
Spring coiler, No. 1 Sleeper & H.
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Gear hobbors, 18H & 24H G. & E.
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Lathe, 84"x40' Putnam geared hd.
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 Nos. 6, 61 & 615 Fellows Gear Shapers.
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 Bor. Mills, 24" & 36" Bullard, R. P. V.

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 No. 4-G Milliholland Grd. Hd. Turret.
 No. 6 W. & S. Tur. with H. D. C.
 Nos. 3, 2 & 1½ Cin. Pl. Cone Pulley.
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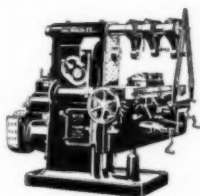
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Index of Advertisers

A

American Tool Works, Inc.....	
Ames Co., B. C.....	
Anderson Bros. Mfg. Co.....	23
Armstrong Bros. Tool Co.....	16
Armstrong-Blum Mfg. Co.....	38-39
Atlas Press Co.....	12
Automatic Machine & Engineering Co.....	67
Avey Drilling Machine Company	4

B

Baumbach Mfg. Co., E. A.....	34
Bennett Machinery Co.....	60
Bernstein & Co., George M.....	49
Boston Gear Works Sales Co.....	26
Brandt, W. E.....	59
Brotherhood & Son, Percy M.....	51
Brown Machinery Co.....	52
Brownell Machinery Co.....	52
Burke Machine Tool Co.....	16

C

Canton Foundry & Mche. Co....	29
Carroll and Son, Wm.....	12
Cincinnati Electrical Tool Co....	
.....Inside Front Cover	
Cincinnati Mchy. & Supply Co....	62
Clements Manufacturing Co.....	22
Cleveland Twist Drill Co.....	37
Colonial Broach Co.....	19
Conway Clutch Co.....	30
Crofoot Gear Corp., C. E.....	26
Cullman Wheel Co.....	2

D

Defiance Machine Works.....	76
Delta Equipment Co.....	71
Donahue Steel Products Co.....	63

E

Eastern Machinery Co.....	64
Edgemont Machine Co.....	31
Eisler Electric Corporation.....	19
Elco Tool & Screw Corporation..	9
Esley Machinery Co., E. L.....	59
Esco Tool Co., Inc.....	20
Excelior Tool & Machine Co....	33

F

Field Co., William H.....	72
First United Finance Corp.....	75
Footo-Burt Co.....	11

G

General Machinery Corp.....	
Glenzer Co., J. C.....	24
Gockel, Arthur P.....	49
Graham Manufacturing Co.....	17
Grant Mfg. & Machine Co.....	29
Grobet File Corp. of America....	

H

Hertzler & Zook Co.....	25
Hill, Clarke & Co., of Chicago....	65
Hyman & Sons, Joseph.....	70

I

Illinois Testing Laboratories, Inc.	32
Indianapolis Mchy. & Supply Co.	61
Industrial Diamond Co.....	21
Interstate Machinery Co.....	49
Iroquois Machinery Co.....	69

J

J. & H. Electric Co., Inc.....	24
Jarvis, Inc., Benj. E.....	
Johnson & Sons Mchy. Co., Wm. C.	56
Jones Mch. Tool Co. Cincinnati	56

Index of Advertisers—Continued

K

Kearney & Trecker Corp..... 71

L

LeBlond Mche. Tool Co., R. K.,
..... Inside Back Cover

Leland-Gifford Co..... Back Cover

Lewthwaite Machine Co., T. H. 33

Long Machinery Corporation 58

Luma Electric Equipment Co.... 25

M

McDonald Machinery Company.. 57

McKinney Tool & Mfg. Co..... 5

Mall Tool Co..... 28

Marr-Galbreath Machinery Co..... 50-51

Martin Tool & Die Works, J. E. 36

Massachusetts Gear & Tool Co... 27

Midland Steel & Equipment Co. 69

Mid-West Machine Tool & Sup-
ply Co..... 58

Miles Machinery Co..... 54

N

National Machine Tool Co..... 30

Nelson Machinery Co..... 49

Norton-Broadway Mchy. Co..... 57

O

O'Brien Machinery Co..... 58

Osborne & Sexton Mchy. Co..... 72

P

Pearson, A. H..... 28

Plunket Machine Co., J. E. 36

Port Brothers 6

Precision Gauge & Tool Co.

Procurier Safety Chuck Co. 31

R

Randle Machinery Co..... 51

Reliance Machinery Sales Co..... 59

Reeve-Frith Company 54

Reynolds Machine Company..... 8

Rhodes Mfg. Co..... Front Cover

Russell Machine Co..... 70

S

Schwerdtle Stamp Co..... 32

Scott-Bansbach Mchy. Co..... 55

Seyfert's Sons, Inc., L. F. 60

Sheldon Machine Co..... 17

Standard Electrical Tool Co..... 3

Standard Shop Equip. Co., Inc... 34

Strafer Machinery Co. 55

Strand & Co., N. A. 18

Strong, Carlisle & Hammond Co. 67

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Index of Advertisers—Continued

Sun Oil Co.....
 Surfacor Manufacturing Co.....

T

Taylor-Hall Welding Corporation 56
 Thompson Grinder Co..... 21
 Townsend Mfg. Co., H. P..... 22

U

United Machinery & Supply Co. 49
 Used and Rebuilt Machinery.. 49 to 72

W

Wachs-Gregg & Co. 68
 Wade Tool Co..... 35
 Walls Sales Corporation..... 23
 Walton Co. 27
 Wardwell Manufacturing Co.....
 Wertman Machinery Co., M. A. 58
 West Penn Machinery Co..... 53
 Western Tool & Mfg. Co..... 18
 White Machinery Co., A. D.... 54
 Whitney Metal Tool Co. 13
 Wigglesworth Machinery Co..... 56
 Wilder Tool Co..... 20
 Wilson, K. R. 10
 Wittek Manufacturing Co..... 7

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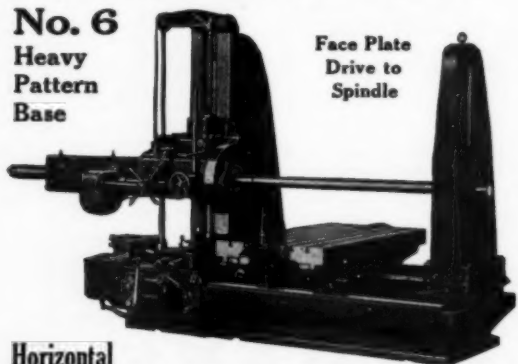
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